

Bull Kelp Working Group
March 26, 2021, 10:00 to 12:00 pm via Microsoft Teams
Meeting Summary

Welcome, self-introductions

Participants

Name	Affiliation
Kirsten Ramey	CA Dept. of Fish and Wildlife (CDFW)
Adam Frimodig	CDFW
Rebecca Flores Miller	CDFW
Gina Contolini, Ph.D.	CDFW
Susan Ashcraft	CA Fish and Game Commission
Doug Bush	The Cultured Abalone Farm (kelp harvester representative)
James Jungwirth	Naturespirit Herbs, LLC (edible seaweed harvester representative)
Cyndi Dawson	The Pew Charitable Trusts (Castalia Environmental)
Tom Ford	The Bay Foundation
Rietta Hohman	Greater Farallones Association
Janet E. Kübler, Ph.D.	CA State University, Northridge
Eliza Harrison	Ocean Rainforest

Recap of previous meeting

- During the 12-30-20 meeting a regional approach was supported by the Bull Kelp Working Group (BKWG) but needed more information to determine the appropriate management scale.
- CDFW committed to evaluating bull kelp harvested as edible seaweed and satellite imagery data on a smaller regional scale.

CDFW proposed approach (including data review)

- CDFW presented data on the annual maximum canopy of giant and bull kelp and total annual bull kelp harvested as edible seaweed by region.
 - Satellite imagery does not differentiate between giant and bull kelp.
- CDFW presented annual canopy data from Del Norte to Sonoma counties. Satellite imagery has not detected kelp in Marin county, although kelp has been detected in the historic CDFW two-meter spatial resolution aerial survey data.
- Maximum canopy cover was determined from seasonally-averaged quarterly imagery. The 2020 fourth quarter is not yet available; however, data shows the quarter with the largest canopy, which was typically second or third quarter (2% first quarter, 18% second quarter, 67% third quarter, 13% fourth quarter).

- There is currently not a biomass conversion for bull kelp; however, this is a top research priority.
- There was a suggestion to not include 2020 satellite imagery data until all four quarters of data are available.
- There was a suggestion to include the methods used to generate the dataset. Action Item: provide an overview of where the satellite imagery data comes from, how it is generated.
- CDFW's proposed regional management approach considering the available data:
 - North of San Francisco:
 - Based on a precautionary approach due to significant declines in bull kelp in northern CA, suggest a prohibition on all bull kelp harvest in Mendocino and Sonoma counties regardless of intended use. Proposed changes would have a sunset date of potentially 3-5 years or until the Kelp Restoration and Management Plan (KRMP) is completed.
 - Prohibit bull kelp harvest in Marin county due to concerns of harvest shifting to this historically low kelp biomass area.
 - In Humboldt and Del Norte counties, consider limiting the current number of harvesters to the two existing companies who harvest in that area, maintain the current harvest limit (2 tons/year/license) and for human food only use.
 - Consider a hiatus on accepting applications for new kelp leases for the three lease-only beds along the north coast (Mendocino, Humboldt & Del Norte counties).
- Science supports kelp restoration and the importance of protecting the remaining reproductive patches of kelp. A precautionary approach is needed to support restoration efforts and kelp's ecosystem role.
- The 1984 Foreman study of strip harvesting in a dense kelp area removed all canopy in a given width and had kelp regrowth if proper conditions. If proposing to close harvest science should determine harvest impacts the resource.
 - In personal communications with CDFW in the 1990's, Foreman stated this method should only be used on high to moderately dense beds.
- Some believe that the current bull kelp loss is not unprecedented. CDFW is mandated to use the best-available science in making management decisions and there is significant concern that even with an increase in kelp recruitment, there may still be cause for concern in some areas of the coast.
- Bull kelp reproduces during the first season in California, overwintered kelp does not reproduce.
 - In Alaska, overwintered individuals produce spores in early spring. There is anecdotal evidence of this in CA.
- Ecosystem-based management in the coastal areas/kelp beds/nearshore ocean is a working landscape and should continue to be perceived as such and should be managed to maintain existing economics and mitigation of ocean acidification and carbon sequestration. Kelp can play a major role.

- Current regulations are not tied to the stock; however, the KRMP would be used to streamline regulations that tie harvest directly to the state of the resource. Satellite imagery to assess the status of the resource is improving and may become more affordable. Harvesters can have a better path to make business decisions. The KRMP will provide an opportunity to adaptively manage kelp harvest on available resource data.
- There was a suggestion to not create regulations that allow for large-scale exploitation. Past data is important but need to consider existing data on how ocean conditions have and continue to change. The intensity and duration of cycles is very different, and it is unclear how that will affect kelp. Any management approach should recognize the information currently available and existing data gaps.
- Some believe that recovery can happen overnight given the cyclical nature of kelp and question how to develop harvest numbers based on the amount of canopy cover. Can we come up with numbers for what an acre of canopy means for biomass?
- Historically, bull kelp declines did not include urchin barrens and crash of sunflower stars.
- Some believe that reducing harvest will not affect spore production and that closing harvest in Mendocino and Sonoma counties is not justified. It was suggested to take a precautionary approach toward the industry. Without a solid body of evidence that harvest is harmful, there is no justification to limit harvest.
- General support was provided on limiting the number of harvesters.
- Concerns were expressed that regulations would not be revisited in the five-year frame and any closure would not be reopened.
- Comment that if Mendocino and Sonoma are restricted, regulations should allow harvesters to shift their harvest activities to other north coast counties.
- Suggested CDFW fly quarterly surveys to determine the amount of canopy available to harvest and cap take at 15% and designate open administrative kelp beds so small-scale harvesters do not have to obtain a lease.
- Where are the resources coming from to get data collection for management? Is it the idea that the kelp only supports this fishery or is it the idea that kelp supports many fisheries? Make sure we incorporate all economies as appropriately as we are considering the entire ecosystem.

Wrap up and Next Steps

- Continue the conversation and agenda items during our next meeting.